

**Amendment to the Claims:**

Please amend the claims as indicated.

1. (Currently Amended) An apparatus for selecting storage media scaling to improve data access performance, the apparatus comprising:

a reception module implemented in software for execution on a processor and configured to receive a dataset for storage ~~without scaling exclusively on a~~ magnetic tape storage medium with a storage instruction that does not direct that the dataset is stored with scaling;

an identification module implemented in software for execution on a processor and configured to identify storage characteristics of the dataset, wherein the storage characteristics comprise compaction, expiration dates, and media interchange specifications; and

a scaling module implemented in software for execution on a processor and configured to select a scaling storage instruction in response to storage criteria applied to the storage characteristics that indicate scaling is beneficial and communicate the selected scaling storage instruction to a storage controller, wherein the scaling storage instruction comprises an instruction to scale the magnetic tape storage medium to a predefined capacity for optimal data access performance and the storage controller stores the dataset on a magnetic tape storage device in response to the scaling storage instruction.

2. (Canceled)

3. (Canceled)
4. (Previously presented) The apparatus of claim 1, further comprising a determination module implemented in software for execution on a processor and configured to store a plurality of predefined storage criteria and compare the storage characteristics of the received dataset with the predefined storage criteria to determine the storage instruction.
5. (Previously presented) The apparatus of claim 1, further comprising a mapping module implemented in software for execution on a processor and configured to track capacity information for the magnetic tape storage medium that stores the dataset.
6. (Canceled)
7. (Currently Amended) A system for scaling a storage medium to improve data access performance, the system comprising:
  - a network configured to communicate data;
  - a storage controller coupled to the network;
  - a magnetic tape storage device having a magnetic tape storage medium configured to store data received from the controller over the network;
  - a host coupled to the network, the host configured to exchange data with the controller;
  - an application operating within the host, the application configured to produce a dataset to be stored ~~without scaling exclusively~~ on the magnetic tape

storage medium with a storage instruction that does not direct that the dataset is stored with scaling;

an identification module implemented in software for execution on a processor and configured to identify storage characteristics of the dataset that indicate scaling is beneficial, wherein the storage characteristics comprise compaction, expiration dates, and media interchange specifications; and

a scaling module configured to communicate with the application and select a scaling storage instruction in response to storage criteria applied to storage characteristics of the dataset and communicate the selected scaling storage instruction to the storage controller, wherein the scaling storage instruction comprises an instruction to scale the magnetic tape storage medium to a predefined capacity for optimal data access performance, and the storage controller stores the dataset on the magnetic tape storage device in response to the scaling storage instruction.

8. (Canceled)
9. (Canceled)
10. (Original) The system of claim 7, wherein the scaling module is configured to store a plurality of predefined storage criteria and compare the storage characteristics of the dataset with the predefined storage criteria to determine the storage instruction.

11. (Canceled)
12. (Original) The system of claim 7, wherein the scaling module operates within the host.
13. (Original) The system of claim 7, wherein the scaling module operates within the storage controller.
14. (Previously presented) The system of claim 7, wherein the scaling module operates within the magnetic tape storage device.
15. (Currently Amended) A computer readable storage medium comprising computer readable code configured to carry out a method for selecting storage medium scaling to improve data access performance, the method comprising:

receiving a dataset to be stored ~~without scaling exclusively~~ on a magnetic tape storage medium with a storage instruction that does not direct that the dataset is stored with scaling;

identifying storage characteristics of the dataset, wherein the storage characteristics comprise compaction, expiration dates, and media interchange specifications;

determining based on storage criteria and the storage characteristics that indicate scaling is beneficial whether to scale the magnetic tape storage medium that will store the dataset; and

selecting a scaling instruction to scale the magnetic tape storage medium to a predefined capacity for optimal data access performance according to the determination, wherein a storage controller stores the dataset on a magnetic tape storage device in response to the scaling instruction.

16. (Previously presented) The computer readable storage medium of claim 15, wherein the method further comprises defining a plurality of storage characteristics as storage characteristics that require storage on optimally scaled magnetic tape storage medium.
17. (Previously presented) The computer readable storage medium of claim 15, wherein the method further comprises defining a plurality of storage characteristics as storage characteristics that require storage on maximum capacity magnetic tape storage medium.
18. (Previously presented) The computer readable storage medium of claim 15, wherein determining further comprises identifying storage characteristics that satisfy storage criteria for storing the dataset on optimally scaled magnetic tape storage medium.
19. (Previously presented) The computer readable storage medium of claim 15, wherein determining further comprises identifying storage characteristics that satisfy storage criteria for storing the dataset on maximum capacity magnetic tape storage medium.

20. (Previously presented) The computer readable storage medium of claim 15, wherein the method further comprises tracking capacity information for the magnetic tape storage medium that stores the dataset.
21. (Previously presented) The apparatus of claim 1, wherein the scaling module is further configured to select the scaling storage instruction using a pre-defined look-up table containing a plurality of datasets that determine whether the received dataset is to be scaled.
22. (Previously Presented) The system of claim 7, wherein the scaling module is further configured to select the scaling storage instruction using a pre-defined look-up table containing a plurality of datasets that determine whether the received dataset is to be scaled.
23. (Previously presented) The method of claim 15, wherein a pre-defined look-up table containing a plurality of datasets determines whether the received dataset is to be scaled.
24. (Previously presented) The system of claim 7, the system further comprising an accessor configured as a robotic arm with a cartridge gripper and a bar code scanner mounted on the cartridge gripper, wherein the accessor transports the magnetic tape storage medium to the magnetic tape storage device.